With Microsoft Teams Rooms, comes a globally scalable modern meeting experience

At Microsoft, the in-room meeting experience is critical to employee satisfaction and productivity. However, like most major enterprises, we have found that implementing the latest advancements in audio and video broadcasting, content sharing, remote connectivity, and other new conferencing capabilities on a global scale has traditionally been cost- and time-prohibitive. Due to the cost and complexity of premium conferencing solutions, IT experts have had to selectively implement modern conferencing technology in a few locations across the enterprise. That’s led to a meeting experience that’s unsatisfying and unreliable for users, and difficult and costly to maintain and upgrade for technology teams.

Instead of continuing with this traditional site-by-site setup, the Core Services Engineering and Operations (CSEO) team conducted a project to modernize all of Microsoft’s meeting-room configurations using the Microsoft Teams Rooms system. By deploying a configured set of meeting-room standards under one technology framework, the team aimed to provide employees with a familiar, reliable, and consistent meeting experience across Microsoft.

This case study describes how CSEO created and implemented this modern framework for meeting-room standards and rapidly deployed one simple, consistent, and reliable global-conferencing solution across thousands of diverse meeting rooms at Microsoft. This case study is part of a series on how CSEO deployed Teams across Microsoft. To learn about our upgrade to Teams, read the technical case study “Upgrading to Microsoft Teams from Skype for Business at Microsoft.” To learn about adoption and change management, read the case study “Microsoft Teams adoption strategy prepares employees for a new culture of work.” To learn more about our Teams meeting experience, read the business article “Enabling simplified, modern meetings with an integrated Microsoft Teams solution.”

Accelerating the modern meeting-room experience

Microsoft CSEO has struggled to work around the limitations of existing A/V conferencing options. Historically, the A/V industry has been able to deliver a premium meeting experience in a few instances, like executive-level conference rooms, but not at scale. For CSEO, a great meeting experience in one environment isn’t enough; a great meeting experience is one that is reliable and consistent across all devices, rooms, meeting scenarios, and locations and is accessible to all employees.

Internal satisfaction surveys at Microsoft showed that an inconsistent meeting-room infrastructure led to user frustration with in-room meeting setup and use. The surveys also showed that time was being wasted on managing different projection setups, content-sharing options, and audio, camera, and device connectivity between rooms. CSEO saw a significant opportunity.

Instead of upgrading each room on its traditional four-year upgrade cycle, CSEO wanted to support a consistent, collaborative meeting experience across the enterprise on a more rapid timeline. Concurrent advancements in meeting-join options within the Teams Rooms system, global user adoption of the Microsoft Teams software system, and the inclusion of simplified A/V components created the right infrastructure for CSEO to reach this goal.

Starting in 2018, CSEO was able to rapidly deploy the Teams Rooms solution at scale and create a consistent, collaborative meeting experience for all employees. Figure 1 illustrates what the solution looks like for many different meeting-room types and meeting scenarios. Currently, Teams Rooms are in 3,500 conference rooms, with the goal of complete room saturation in 5,500 A/V-enabled global conference rooms by 2020.
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The solution: a standardized meeting-room architecture

Microsoft Teams Rooms includes a core software experience with a framework of device configurations. The solution encompasses the Teams meeting software, the Teams Rooms system, and an ecosystem of Teams Rooms-certified A/V peripherals fit for each room. This framework covers three areas:

A consistent yet flexible meeting-standards framework

Unlike previous generations of A/V technology, the Microsoft Teams Rooms system is built on a standardized architecture with a framework of multiple device configurations and room-customization choices. This framework enables CSEO to ensure the same standards of consistency and simplicity for employees and visitors across Microsoft meeting rooms while offering cost-efficient customization at scale. This standards framework includes:

A consistent software experience with Windows 10-based meeting-room solutions

At the core of the Teams Rooms solution is a standard software solution implemented in each and every room. Each room is equipped with a single PC that runs Windows 10 and the Teams software.

- By simplifying and standardizing the meeting-room experience on one software system, CSEO was able to create a consistent experience for users no matter where they are in the enterprise. Employees can set up meetings and use room capabilities in the exact same manner in every room, every time they need to meet.
- Even if in-room device configurations change or equipment upgrades occur, all meeting experiences ensure the same software experience globally.

A library of peripheral add-ons standardized for quality

The Windows 10-based meeting-room solution is augmented by a library of A/V peripherals (e.g., personal devices, cameras, interactive whiteboards, speaker packs, phones) that enhance and modify the in-room capabilities. CSEO works with a broad-based ecosystem of OEM partners that create devices that are compatible with the Teams environment, allowing users to decide which devices offer the right fit for their meeting environment. A/V choices create the following gains:

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- CSEO can create many levels of meeting-room configurations. Simple, cost-effective webcams and speakerphones can be installed to create basic conferencing environments. The team can also use the same framework to install high-end displays, projectors, and intelligent video and audio capabilities for premium-level multipurpose rooms.
- Each location and site leader can select and order the appropriate equipment configuration for that exact site’s meeting needs and A/V budget. At the same time, sites or rooms that need basic configurations still receive the same meeting experience as premium-level rooms or executive offices.
- Each configuration option still exists within the same meeting-standards framework for users. Because each device configuration is built on the same software experience and runs from a standard Teams Rooms system, users can move from basic to multipurpose rooms without having to learn new conferencing technology. Nor will they have to encounter device setups they don’t know how to use, even in premium-level environments.

Core standards enforced by room type

This flexibility architecture enabled CSEO to create a centralized meeting framework for room-by-room standards. CSEO created a menu of options, depending on room size, that:

- Enables CSEO to add on all the components (display, audio, conversation, A/V hookups, etc.) to create the user experience needed for each room. Figure 2 illustrates how the library of A/V peripherals creates standard console, audio, display, and camera choices based on each room type.
- Ensures each room meets the different needs of employees while guaranteeing the same level of device and room reliability no matter the room configuration.

<table>
<thead>
<tr>
<th>Room type</th>
<th>Focus</th>
<th>Small</th>
<th>Medium</th>
<th>Large</th>
<th>Executive (state-of-the-art audio and video)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seats</td>
<td>2-5</td>
<td>6-8</td>
<td>10-14</td>
<td>16-18</td>
<td>10-24</td>
</tr>
<tr>
<td>Microsoft Teams Rooms bundle options</td>
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<td><img src="image2.jpg" alt="Image" /></td>
<td><img src="image3.jpg" alt="Image" /></td>
<td><img src="image4.jpg" alt="Image" /></td>
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</tr>
<tr>
<td>Display</td>
<td><img src="image6.jpg" alt="Image" /></td>
<td><img src="image7.jpg" alt="Image" /></td>
<td><img src="image8.jpg" alt="Image" /></td>
<td><img src="image9.jpg" alt="Image" /></td>
<td><img src="image10.jpg" alt="Image" /></td>
</tr>
</tbody>
</table>

*Figure 2. The Microsoft Teams Rooms solution creates a consistent software experience while offering numerous equipment configuration options and A/V peripherals based on room type. Note: Devices shown are sample configurations only and do not represent specific recommendations for device manufacturers.*

One continually evolving meeting framework

Creating a consistent software experience through the Teams Rooms system and certified A/V peripherals enables CSEO to change, upgrade, and improve its menu of equipment options without changing the core user experience between rooms. The team can continually test and implement new devices and options into its meeting-standards framework. As the team works through its technology refresh cycle, older rooms and upgraded rooms still maintain the same experience.
Increasing cost savings at scale

A consistent platform built on centralized meeting standards helped the CSEO team create a meeting-room solution that scales without becoming cost-prohibitive. With Microsoft Teams Rooms, CSEO can offer the best user experience possible and deliver in cost-effective ways by:

Creating cost-effective meeting-room standards

The standard system and all of its in-room configuration options create global standards that reduce the cost of ownership for the solution at each site:

- The basic, standard component for each room is a Teams Rooms base unit that includes a console and an integrated PC. This setup creates a much lower barrier and cost of entry for a modern meeting room.
- The ability to buy basic components all the way up to expensive, robust premium devices offers different cost levels for all meeting-room budgets.
- Modern features like proximity, cable-free join, smart cameras and digital whiteboarding devices reduce the overall number of physical parts required to make a meeting room functional and reliable. They also increase modern conferencing capabilities.

Reducing procurement costs with centralized distribution

The CSEO team also decreased the cost of system installation and system complexity by moving to a centralized procurement and distribution provider. Instead of having each project designed and constructed by on-site procurement teams and experts, the CSEO team uses one distributor with four regional locations to procure parts and assemble each system in the following manner:

- Based on the bill of materials for each room selected from the A/V framework, the distributor will procure parts from global providers at the best cost possible.
- For each site, the distributor will conduct detailed component integration and fabrication that would traditionally be completed onsite, including setting IP addresses and hooking up each device. The distributor will ultimately create a prefabricated, shrink-wrapped “Room in a Box” that is sent to each site for installation. Figure 3 shows what a “Room in a Box” installation looks like as it leaves the distribution center.

Figure 3. A prefabricated “Room in a Box” is shipped in a shrink-wrapped package to each meeting-room site for installation.
Reducing labor costs
The “Room in a Box” distribution model also led to significant reduction in the labor time and costs involved in installing meeting-room equipment. Because the system comes with prefabrication of components and detailed instructions for installation, a local installation crew can install the system faster and with less device-specific expertise:

- Setting up a Teams Rooms system now takes less than 2 hours instead of 8.5 with previous construction, up to a 75-percent savings in construction time, and a 50-percent savings in labor costs. The time-lapse video in Figure 4 shows how the Teams Rooms systems saves time and simplifies room assembly compared to previous installation standards.
- With prefabrication, fewer components need to be configured, tested, and installed on-site by local construction crews. Moving the burden of configuration from onsite installation into the centralized distribution process and shipping conference-room components with detailed setup instructions have reduced the possibilities of installation errors or rework by onsite construction crews.

Old standard

![Old standard](image)

New standard

![New standard](image)

Figure 4. Click here to view a time-lapse comparison of construction time. Microsoft Teams Rooms have dramatically reduced the complexity and cost of outfitting each room with conferencing technology. The left pane shows the installation of Microsoft rooms that previously took eight and a half hours to complete and required full onsite integration of parts. The right pane compares how the current generation of Teams Rooms takes less than two hours to install by using preconfigured equipment and requiring fewer components and a centralized distribution model.

By deploying and standardizing Teams Rooms platform globally, CSEO had the opportunity to create global-demand forecasts for meeting-room-infrastructure needs. This enables the team to:

- **Manage the technology upgrade timeline for more than 800 buildings and more than 100 sites as one cohesive project.** Managing each site as a component of a comprehensive upgrade project, instead of as isolated site-specific projects, increases visibility into global meeting needs. This visibility allows CSEO to evaluate and implement new meeting improvements as a global standard instead of a capability that’s available only in one or two rooms.
- **Increase visibility into which parts need to be ordered from suppliers.** The ability to both forecast demand and meet that demand with centralized procurement enables CSEO to generate significant pricing discounts from OEM partners. Those discounts will reduce the total cost of ownership for each Teams Rooms-enabled room and integrate new premium technologies at a lower overall price point.

Improving reliability with a consistent service and support network

By creating a consistent platform based on a simple PC-based solution, CSEO was able to implement standard management and monitoring tools that drive visibility into the state of each room and reduce reliability issues. The team improved global reliability for conferencing capabilities through:
Simplified device support
By reducing the number of components needed for each room, Teams Rooms platform requires fewer moving parts to deploy, manage, and monitor.

Proactive worldwide monitoring
- **Azure monitoring service**: Teams Rooms-enabled devices from all over the world automatically send status reports and create device events reported directly into a centralized Azure cloud service. With this live, cloud-based monitoring, the CSEO team can solve six times the number of in-room issues than it could before.
- **Proactive support-ticket resolution**: Device events reported into Azure automatically create support tickets that can be proactively addressed in real-time. Instead of waiting for users to report in-room issues or file help tickets, the CSEO team can see and fix issues as they happen. The number of user-reported issues has dropped by 64 percent.

Scalable global support
In the past, in-room support was monitored and managed by a team of local support technicians, leading to a variance in the timeliness and the quality of issue resolution. Now, device monitoring from the cloud creates global support that can be scaled across rooms. A centralized team can see in-room and device issues in real-time and send a tech onsite to address it.

Cost-effective maintenance
Because the software environment remains the same across meeting rooms, CSEO can leverage the same local support resources as typical PC support. On-site technicians don’t need to be experts in the Teams Rooms system to resolve on-site issues. CSEO can provide detailed instructions on what to fix and how from the centralized monitoring service.

Deployment and scalability
The Microsoft Teams Rooms system was first deployed in 2,500 rooms in Microsoft’s Puget Sound-area offices over 18 months. By 2020, CSEO aims to install the Teams Rooms system in 5,500 global conference rooms. CSEO is accomplishing this rollout through three core methods:

Certification of equipment by product group
Before a new device or OEM partner peripheral is added to the Teams Rooms framework, the Microsoft product group certifies each device to ensure that it meets Microsoft standards.

Standards and testing process
Once a device has been certified by the product group, CSEO conducts a detailed testing process to determine whether the device is compatible with the Teams Rooms system and offers added value to global conferencing needs. The testing process is conducted in the following manner:
- CSEO will test each device or configuration of devices for many different room scenarios. Testing and in-room pilot programs ensure components meet existing quality standards.
- CSEO also gathers data to determine if a component or offering fits into the overall meeting framework without changing the core meeting experience. For example, a pilot test of dual-screen capabilities in meeting rooms at the Redmond headquarters was conducted. Its goal was to determine if dual screens should exist as a default option in the Teams Rooms System or if they should be configured on a case-by-case basis, based on user feedback and demand.

Robust, centralized forecasting model
Managing global deployment from a centralized, standardized meeting platform also enables the CSEO team to plan out meeting goals and maturity models for the next fiscal year across all meeting sites, instead of room-by-room or site-by-site.

Ensuring the global availability for A/V projects was also critical to reaching these efficient deployment timelines. To make the system an affordable solution for global field sites beyond the Puget Sound headquarters, the team made key changes, including:
• **Offering variable upgrade options.** The different configuration options within the system provide local sites with a predictable cost for upgrading their meeting rooms and facilities. CSEO can more easily work with each site leader to configure the Microsoft Teams Rooms system that best fits their local site needs while reaching global standardization faster.

• **Implementing global forecast models.** By using the same forecasting model for each field site, CSEO can plan out projects and room upgrades on a global scale, use deployment resources more wisely, and raise the bar for the meeting experience across the enterprise. This global forecasting ultimately creates a more efficient system deployment by improving visibility into global equipment planning and creating long-term partnerships with supplier and OEM hardware vendors.

### Lessons learned

Rapidly piloting and installing one conferencing solution in thousands of global meeting sites led to significant insights into global-deployment best practices. Because the solution continually evolved to include new configuration options and installation sites, CSEO continues to iterate on its deployment practices. Lessons learned include:

• **Hardware simplification is a critical component of improving solution reliability.** The Microsoft Teams Rooms system requires fewer modules, fewer cables, and fewer hardware components to set up to create a functional, modern meeting rooms. Fewer components meant that CSEO could reduce the number of potential points of failure and the number of parts it must integrate, monitor, and service in each room.

• **Creating building-by-building deployment helps with change management.** Instead of deploying the system room by room, CSEO found that piloting one room in one building and then upgrading an entire building at once enabled faster user adoption. Room signage outlined when the new system would be in place in each building. Internal user education helped set expectations and taught employees how to use the system. Users were also assured that the same meeting standards could be maintained building-wide throughout deployment.

• **Account configuration.** For a meeting-room upgrade of this scale, CSEO recommends establishing standards and centralizing all functions around device, account, and room configuration under one plan. Managing all processes related to account configuration and requests ensures that room upgrades and project delivery are completed on time and done correctly throughout the enterprise.

• **Asset inventory.** CSEO found that maintaining a thorough inventory of rooms, an inventory of equipment by asset type and room type, and standards applied to each room leads to more efficient decision-making and faster room upgrades and deployment. Maintaining all assets in one documentation structure enables project managers to instantly view the status of each room (without needing to conduct a site visit) and quickly respond to service requests as the project progresses.

### Benefits

By adding Microsoft Teams Rooms systems instead of refreshing an entire room’s technology suite, the CSEO team can continually upgrade its global-technology lifecycle at a much faster pace and lower cost to each meeting-room site. By standardizing global meeting rooms on the Teams infrastructure and centralized procurement process, CSEO achieved the following outcomes:

• Saturation for lifecycle upgrades in the Puget Sound area was achieved in just 18 months instead of the typical four-year timeline. This quick win demonstrated that the solution could scale for rapid global implementation in each building or remote site.

• Teams Rooms created a 60-percent savings in total cost of each room through a reduction of parts, procurement, and labor costs needed to set up, maintain, and upgrade each room.

• The overall number of components required to make a meeting room functional has decreased by well over 50 percent for each room, creating global savings on installation and component costs.

• Setting up a Teams Rooms system now takes less than 2 hours, instead of 8.5 hours. A rapid installation saves on labor time and costs at each site. The preconfigured components no longer require local installation crews to have specialized or expert knowledge to set up each room’s devices.

• Integration and consistency between meeting rooms, coupled with cutting-edge meeting technology, has improved remote collaboration. Remote participants report feeling more connected to meeting activities and conversations even when not physically in a meeting room. Improving the reliability of intelligent audio and visual options across all rooms allows employees and collaborators to maintain the same level of collaboration of without incurring travel time and costs to come onsite.
Future capabilities

Because CSEO can continually test and add new devices and configuration options for compatibility with the Microsoft Teams Rooms system without changing the core software experience, the suite of capabilities can quickly evolve to include the latest advancements in audio, video, and conference technologies. This flexible architecture combined with reductions in typical procurement and implementation roadblocks allows CSEO to reach rapid global deployment for the Teams Rooms system.

By 2020, the Teams Rooms deployment will include:

- Global implementation of the Teams Rooms system in 5,500 conference rooms.
- Teams Rooms enablement for small meeting rooms of two to five participants.
- Cable-free meetings that enable users to share content to a room from any personal device.

A modern meeting solution at scale

The Teams Rooms systems support simple, consistent, and reliable meetings for users across the globe at Microsoft. By creating a portfolio of modern meeting rooms standardized and scaled from one platform, CSEO can offer users customizable device and meeting technologies fit to each room type and meeting scenario. And the team does so while ensuring that users can expect the same meeting experience no matter where they go. A consistent framework built on one standard software experience and configurable A/V options by room type not only helps modernize meeting capabilities, but it also reduces the costs and friction of implementing a new meeting solution at scale.

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Transform your meeting rooms with Microsoft Teams Rooms (demo)

Microsoft Teams devices

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